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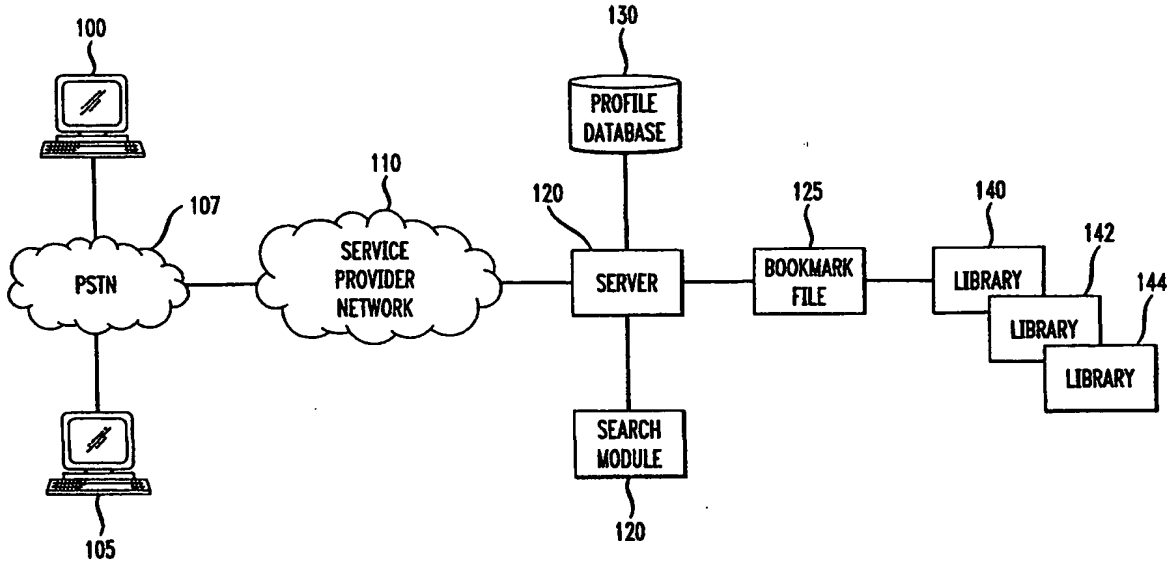

(57) Abstract

A network bookmarking system is provided. In accordance with an embodiment of the present invention, a bookmark file (125) is stored on a network server (120). Libraries (140, 142, 144) are stored and categorized in the bookmark file to store associated bookmarks of interest. Bookmarks to be saved are categorized and stored to the appropriate libraries in the bookmark file. The libraries can be searched to identify and retrieve bookmarks of interest.

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APPARATUS AND METHOD FOR A NETWORK BOOKMARKING SYSTEM

Background Of The Invention

The present invention relates to a method and apparatus for bookmarking items of interest that are archived on a network. More specifically, the invention provides for bookmarking items of interest on a network server and searching for particular bookmarked items that are stored on the network server.

Currently, it is possible to bookmark items of interest that are archived and available on the Internet and then bookmark those items for future reference. However, there are drawbacks with known methods for bookmarking items of interest. Currently, bookmarks are saved on the hard drive of the user's personal computer (PC) by using a web browser. Whereas storing bookmarked items on the user's hard drive allows the user to access those bookmarks for future reference, the user must be utilizing the computer on which the bookmarks are saved in order to access those bookmarks. Thus, if a user is utilizing a computer different from that on which the bookmarks are stored, e.g., using a laptop computer while traveling, the user will not be able to access the bookmarks from the laptop computer. Therefore, the stored bookmarks are not available to the user unless the user is using the computer that the bookmarks have previously been saved to.

Access to saved bookmarks is not the only drawback with presently known bookmarking methods. Because the bookmarks are saved to the hard drive of a particular computer, if an individual wants to have access to a saved bookmark regardless of which computer the individual may be using, the individual must save the

bookmark on each computer. The requirement to have to save each bookmark to serveral different computers can result in inconsistencies between the bookmarks that are stored on each computer. Thus, present bookmarking methods result in problems with both saving and accessing bookmarks.

A further drawback with present bookmarking methods is the inability to share bookmarked items with other individuals who may be interested in accessing the same bookmarks. As addressed above, because bookmarks are presently saved on the hard drive of a user's computer, a group of users that are interested in accessing the same bookmarks cannot access the bookmarks from a common source. If a group of users desires to have access to the same set of bookmarks, each user must save the bookmark on their own PC and provide the bookmark to other members of the group so that they can also save the bookmark on their own PC. This results in time and computer memory inefficiencies when bookmarking common interest items.

Searching for bookmarked items of interest also presents drawbacks. Currently, an individual who has saved numerous bookmarks related to various subject areas is not able to efficiently retrieve and organize bookmarks related to a particular subject area of interest. Moreover, a group of individuals interested in bookmarks that are related to a particular subject area are not able to efficiently retrieve and organize bookmarks that are of interest to the entire group.

Therefore, it would be desirable to provide a method and apparatus for bookmarking items of interest on a network server. Bookmarks could be saved to the network server and accessed from the server by a multitude of users and could be organized such that particular bookmarks of interest could be easily searched for and retrieved.

Summary Of The Invention

The drawbacks in the prior art are overcome by the present invention which provides a network bookmarking system. In accordance with the present invention, a bookmark file is stored on a network server. Sub-files, or libraries, are stored and categorized to store associated bookmarks of interest. Bookmarks to be saved are categorized and stored to the appropriate libraries. The libraries can be searched to

identify and retrieve bookmarks of interest.

Brief Description Of The Drawings

Fig. 1 illustrates a network bookmarking system in accordance with an embodiment of the present invention.

Fig. 2 illustrates an embodiment of a data input template in connection with the present invention.

Fig. 3 illustrates an embodiment of a user profile template in connection with the present invention.

Fig. 4 illustrates a process flow chart for practicing a method in accordance with an embodiment of the present invention.

Detailed Description

Fig. 1 illustrates one embodiment for the network bookmarking system of the present invention. As can be seen, a plurality of user personal computers (PCs), two of which are illustrated as PCs 100 and 105, are connected into network 110 through, for example, public switched telephone network (PSTN) 107. Network 110 is illustrated as a service provider network such as, e.g., an Internet service provider; however, the network can be any of a variety of different types of networks that provide for interconnection between multiple users' PCs and other network servers, including internets and intranets, or local area networks.

Server 120 is connected to network 110 and provides various network subscriber services. Stored on server 120 is bookmark file 125. As will be explained, users at PCs 100 and 105, and any other network subscribers, can store bookmarks of interest in bookmark file 125 so that the bookmarks can be accessed by any of the other network subscribers. It is not required that the users at PCs 100 and 105 use those particular PCs to store and access bookmarks in bookmark file 125. Any device that is capable of connecting to network 110 can be utilized by a user to store and access the bookmarks in bookmark file 125. In this manner, a multitude of users may store bookmarks to, and access bookmarks from, a network server by utilizing a variety of user input devices. Through the present invention, users that have common interests can share bookmarks

related to those interests by storing those bookmarks on a commonly available network server.

In practicing the present invention, a user at PC 100, for example, who has viewed a document of interest and who desires to store a bookmark associated with that document in bookmark file 125 will connect their user input device, i.e., PC 100, to network 110. The user at PC 100 then transmits the bookmark to network 110 where the bookmark is stored in bookmark file 125. The bookmark contains hyperlink information that is utilized to access an item that is associated with the bookmark and may contain metadata which describes the item associated with the bookmark.

In order to organize the multitude of bookmarks that can be stored in bookmark file 125 by multiple users, sub-files, or libraries, are stored in bookmark file 125. Libraries 140, 142, and 144 are illustrated in Fig. 1. These libraries serve as folders for storing the bookmarks and are categorized according to topic areas. These libraries can be created and categorized for any topic area that is desired. For example, library 140 could be categorized to store bookmarks that one particular individual may want to store, regardless of the subject matter of the bookmarked item. Thus, if John Smith is a network subscriber and John Smith wants to create a library 140 to store bookmarks that are of particular interest to him, he can create his own library and categorize the library to store his bookmarks in that library.

Other libraries could be created to store bookmarks that are related to a topic area that may be of interest to a particular group of users. For example, if a group of users is interested in the topic area of the Civil War, library 142 could be created to store bookmarks associated with Civil War topics. In this manner, a particular user group could create a library to store bookmarks of interest to that particular user group.

The topic area of the user group library can be further segregated into several more discrete sub-topic areas and libraries may be created to store bookmarks that are associated with these sub-topic areas. The sub-topic areas may be of particular interest to a sub-group within the larger user group. For example, if a topic area for a user group library is the Civil War, as addressed above, and if a sub-group of the user group is particularly interested in the battles at Gettysburg during the Civil War, a separate sub-group library could be created, based on the user group library "Civil War", for

bookmarks associated with "Gettysburg" topics. Thus, a hierarchy of libraries can be created to store bookmarks of interest that range from a library for bookmarks of interest to a specific individual to a library that is of interest to a whole community of users, i.e., a user group, that is associated with a broad topic area, such as the Civil War.

When bookmarks are stored in bookmark file 125, the present invention is not limited to storing bookmarks in only a single library. The same bookmark, if associated with several libraries (which could be at the same level in the hierarchy of libraries or at different levels in the hierarchy) can be stored in each of the associated libraries. The bookmarks can be stored in the appropriate libraries in a variety of ways and the present invention is not limited to any particular method of storing the bookmarks in the libraries.

One method for storing bookmarks in specific libraries is for the user to designate what libraries the bookmark should be stored in. Server 120 could store a listing of the libraries that have been created. The user could select one or more libraries from this listing and could designate that the bookmark be stored in the selected libraries. In this manner, the user could directly select the libraries that the bookmark should be stored in.

Alternatively, the user could indirectly select the libraries that the bookmark should be stored in. For example, a data input template 200 as illustrated in Fig. 2 could be stored on server 120. The data input template would provide data entry fields to prompt the user to enter data related to the particular bookmark to be stored on the network server. The data characterizes the subject matter of the bookmark. As illustrated in Fig. 2, these data entry fields could be related to information concerning the name of the item associated with the bookmark 205, the author of the item 210, the date of publication of the item 215, and the subject matter of the item 220. The user could enter data into the data entry fields and server 120 could correlate the entered data to data already stored on server 120 which characterizes the libraries that have been stored in bookmark file 125. Using this correlation, server 120 can determine where the bookmark should be saved, i.e., in which library or libraries. In this manner, the user indirectly stores the bookmark in a library by characterizing the bookmark and allowing the server to store the bookmark in an appropriate library based on the user's

characterization.

As mentioned previously, data stored on server 120 characterize the libraries that have been created. The types of data stored on server 120 with respect to a library depend upon the particular library that is to be characterized. For example, if a particular library only stores bookmarks for documents authored by, e.g., "John Jones", then the data to characterize that library would be "John Jones" as the author of documents stored in that library. Therefore, if a user enters "John Jones" in entry field 210, which is the data entry field for the "author" of the document, then server 120 would review this data, correlate this data to the library that is characterized for documents authored by "John Jones", and store the bookmark in this library. Alternatively, a library could be categorized by topic area and data associated with the topic area would be stored on server 120 to characterize such a library.

The present invention is not limited to any particular method of categorizing the libraries, categorizing the bookmarks to be stored, or correlating a library to a bookmark to be stored. The correlation method could be as simple as directly matching a single piece of data entered by a user to characterize a bookmark to data stored in server 120 that characterizes a particular library. The method could be as complex as assigning relative weights of importance to each user data entry to characterize a bookmark and storing the bookmark in a library if defined correlation criteria is met.

The system can include pull down menus to assist the user with entry of data into data input template 200 to characterize a bookmark. The entries in the pull down menus can be associated with the data utilized by server 120 to categorize the libraries stored on server 120. For example, the subject matter data entry field 220 could be provided with a pull down menu that provides broad topic areas, such as "Civil War". Civil War could also be the categorizing subject matter for a particular library stored on server 120. Therefore, the selection of the subject matter of "Civil War" from the pull down menu of the subject matter data entry field 220, easily correlates the bookmark to the library that stores bookmarks related to the Civil War and stores the bookmark in that library. In this manner, characterizing terms for bookmarks and libraries can be coordinated to provide for an easy method of storing a bookmark in a particular library.

Each pull down menu addressed above could be further provided with sub-topic

menus for each broad topic area. These sub-topic menus could also be associated with sub-topic libraries. For example, when a user selects the broad topic area "Civil War" from the topic menu, server 120 could also provide the user with sub-topics for further characterizing the bookmark to be stored. Using the previous example, one of these sub-topics could be for items associated with the battles at Gettysburg. In this manner, the bookmark could be categorized according to all appropriate broad topic areas and sub-topic areas and this categorization could be indexed to the libraries that are stored on server 120.

Whereas the previous example for pull down menus was addressed to the subject matter data entry field, the present invention is not limited to only providing pull down menus for this data entry field. Pull down menus for any data entry field can be provided and the pull down menus can be associated with any library that is stored on server 120.

An alternative method for categorizing bookmarks so that they can be stored in appropriate libraries is to allow server 120 to categorize and store the bookmark in a library. In the example above, the user indirectly selects the libraries that the bookmark should be stored in by characterizing the bookmark by entering data into a data input template. In the alternative method, server 120 could be utilized to characterize the bookmark rather than having the user characterize the bookmark.

One method for having server 120 characterize the bookmark could be for server 120 to utilize the text of the title of the bookmark. The server 120 could correlate terms in the title of the bookmark to data that is used to characterize the libraries and then store the bookmark in the appropriate library(s). Alternatively, server 120 could use the address of the bookmark to access the document associated with the bookmark from the archiving server. Server 120 could then scan the text of the document to match terms in the document to the terms that are used to characterize the libraries. If the bookmarked item that is retrieved from the archiving server is an audio file, known speech recognition software could be provided in network 110 to recognize the spoken words in the retrieved item and match the spoken words in the item to the terms that are used to characterize the libraries. In either situation, i.e., where the retrieved item is a text document or where it is an audio file, server 120 could store the bookmark in the

libraries whose characterizing terms match words that are contained in the item that is associated with the bookmark. In this manner, server 120 could characterize the bookmark and store the bookmark in an appropriate library.

After server 120 characterizes each bookmark, server 120 could store the matched terms from the bookmarked item to data input template 200 to create a data input file for the bookmarked item. This data input file would contain key words that characterize the bookmark. Thus, server 120 would enter data into data input template 200 rather than having the user enter data into data input template 200, as was done when the user characterized the bookmark. Server 120 would create the data input file by matching terms from the bookmarked item to terms that categorize the libraries.

Once bookmarks are stored in a library, the bookmarks in each library can be prioritized. Prioritization of the bookmarks in a particular library could be accomplished by a variety of methods. One method for prioritizing bookmarks could be to list the bookmarks in a priority order that is based on the number of times that a user has accessed each particular bookmark in a library. For example, if the library "Civil War" contains 10 bookmarks and one bookmark has been accessed more times by users than all of the other bookmarks stored in that library, that bookmark could be listed first in the listing of bookmarks stored in that library. The remaining bookmarks could be listed in the order of the frequency of their being accessed by users. In this manner, the most accessed bookmarks, which could be assumed to be those of most interest to users, would be listed first within the library so that a user unfamiliar with the bookmarks in a library would have some indication as to those that may be of greatest interest to the user. The system could continue to monitor the frequency that each bookmark is accessed and regularly, or in real-time, reorder the listing of bookmarks as appropriate.

An alternative method for prioritizing the bookmarks stored in a particular library could be to list the bookmarks in an order that represents the number of times that a term that is used to characterize a library is contained in the bookmarked item. For example, if the library "Civil War" is characterized by the key words "Civil War" and if one bookmarked item in the library contains the words "Civil War" fifty times and another bookmarked item contains the words one time, the item that contains the

words fifty times would be listed before the item that contains the words one time. Since the bookmarked item that contains the words "Civil War" fifty times can be assumed to be more relevant to the subject matter of the library than the bookmarked item that contains the words only once, it would be advantageous to list the most relevant items before the least relevant items to assist users of the library.

Storing bookmarks in libraries can assist a user in searching for and identifying bookmarks that might be of interest to that particular user or user group. Various methods may be employed in the present invention to search for bookmarks of interest. Because the bookmarks are stored in libraries and can be prioritized within the libraries, the user can select a particular library of interest from a listing of the libraries available on server 120 and peruse the bookmarks stored within that library. However, by utilizing this method of searching for bookmarks of interest, the user must search for bookmarks by reviewing the contents of each library. This method does not provide an easy mechanism for directly identifying individual bookmarks within the libraries that might be of interest.

An alternative method for identifying bookmarks of interest to a user would be for a user to enter information related to the interests of the user in a user profile 300, as illustrated in Fig. 3. The user profile could contain information related to the interests of a single user and/or could contain information that is related to a user group or sub-group. User profiles for each user and/or user group could be stored in profile database 130. In this manner, the user profile could be used to directly search for bookmarks within libraries that may be of interest to single users or user groups.

User profile 300 contains various data entry fields that are used by a user to input information that identifies the interests of the user. Several of these data entry fields are illustrated in Fig. 3 as the user name field 305, group name field 310, key words field 315, item date field 320, and author field 325. By entering data into the data entry fields, the user identifies the types of bookmarks that are of interest. Search module 150, as shown in Fig. 1, correlates the terms entered into user profile 300 to terms that characterize the libraries and to terms that characterize the bookmarked items. Search module 150 correlates terms in the user profile to terms that characterize the libraries and bookmarked items to identify a set(s) of bookmarks of interest for the

user. Such a set of bookmarks could consist of all bookmarks contained in a particular library or individual bookmarks selected from various libraries.

Search module 150 is not only able to identify a set of bookmarks that may be of interest to a particular user or user group based on the entered profile data, but is also able to prioritize the set of bookmarks. Search module 150 could contain an expert system that is able to filter the identified bookmarks in order to prioritize the bookmarks. The expert system could filter the identified bookmarks based on analyzing the user profile and the prioritization of the bookmarks within a particular library. In this manner, a prioritized set of bookmarks could be identified for a particular user or user group. The specific criteria used by the expert system to filter the identified bookmarks based on the user profile can vary according to the desires of the user and the present invention is not limited to any particular criteria.

An additional feature in the present invention is the ability to control a user's access to the bookmarked items. It may be desirable to control the access to bookmark file 125 for each user/user group. This access control could be accomplished in a variety of ways and could serve a variety of purposes. For example, each user could be assigned a password that identifies the user and provides access to the system for the user. Each user could also be assigned an access level. Access levels could be assigned to each user to identify access privileges to particular libraries and to define operations permissible by the user within each library. Certain users could be permitted to access only certain libraries. Within the libraries that a user has access to, the user may only be permitted to access bookmarks from the library and not be permitted to save bookmarks to that library.

Access controls can be utilized to define access privileges for both an individual's library of bookmarks and a group's library of bookmarks. The controls that will define privileges for each library can be established by the individual or group that is assigned management resposibilities for the library. For example, a user who created an individualized library can control who has access to the library and who can perform what functions in the library. The user can define access privileges for multiple groups of individuals with each member of each group being granted like access privileges. In this manner, access controls are designated for each library by a "manager" of the

library and these controls define which individuals have what privileges within each library.

In operation, the user enters their password into network 110 for access into the network. Network 110 would correlate the password to a particular user. The access levels for that particular user would also be associated with the password. In this manner, access to libraries could be controlled for particular users.

In order to retrieve the items that are associated with the stored bookmarks from the archiving server, a variety of methods could be utilized with the present invention. The user could download the bookmarks of interest from the network server to their PC and then could utilize their PC to retrieve the bookmarked item from the archiving server. Alternatively, the user could designate to the network server which bookmarked items to retrieve and the network server would retrieve the item from the archiving server and download the item to the user. The present invention is not limited to any particular method for retrieving bookmarked items from an archiving server.

The basic method steps for practicing the present invention are illustrated in Fig. 4. In step 400 a bookmark file is stored on a network server. Libraries are stored and characterized in the bookmark file for storing associated bookmarks in the libraries, step 405. In step 410, bookmarks are characterized and stored in the associated libraries. Step 415 illustrates the step where the bookmarks stored in each library are prioritized. In order to aid in searching for bookmarks stored on the server, the user enters data related to the user and/or user group into a user profile, step 420. Based on the user profile, the search module searches for bookmarks of interest to the user, step 425. In step 430, the set of bookmarks identified as being of interest to the user are filtered to prioritize the bookmarks.

The method steps shown in Fig. 4 are not intended to be all inclusive of all of the features of the present invention, as described in this specification. The specification, when read as a whole, fully describes the network bookmarking system of the present invention.

As mentioned previously, the network server may be associated with any type of network and thus may be a server in an Internet service provider network. As such, the bookmark file that is stored on the network server may be a web site that is

maintained on the network server.

The disclosed embodiments are illustrative of the various ways in which the present invention may be practiced. Other embodiments can be implemented by those skilled in the art without departing from the spirit and scope of the present invention.

What Is Claimed Is:

1. A method for storing bookmarks comprising the steps of:

storing a bookmark file on a network server; and

storing bookmarks in said bookmark file as input to said network server by a user.

2. The method of claim 1 further comprising the step of storing a plurality of libraries in said bookmark file, each of said libraries characterized to store bookmarks associated with a topic area.

3. The method of claim 2 wherein one of said topic areas relates to subject matter of the stored bookmarks.

4. The method of claim 2 wherein one of said topic areas relates to the identity of a user that is storing the bookmarks in the library.

5. The method of claim 2 further comprising the steps of:

characterizing each of said bookmarks stored in said bookmark file, wherein each of said bookmarks is characterized to be associated with at least one of said plurality of libraries; and

storing each of said characterized bookmarks in the library associated with said characterized bookmark.

6. The method of claim 5 wherein said steps of characterizing and storing each of said bookmarks comprises the steps of:

accessing an item associated with each of said bookmarks from an archiving server by said network server;

correlating terms contained in said item to terms stored in a database, wherein said terms stored in said database are associated with said characterized libraries; and

storing each of said bookmarks in the library associated with each of said bookmarks based upon the correlation of the terms contained in said item to the terms

stored in said database.

7. The method of claim 6 further comprising the step of prioritizing each of said bookmarks stored in each of said libraries.

8. The method of claim 7 wherein the step of prioritizing each of said bookmarks stored in each of said libraries comprises the step of determining the number of times each of said bookmarks is accessed by a user.

9. The method of claim 7 wherein the step of prioritizing each of said bookmarks stored in each of said libraries comprises the step of determining the quantity of terms contained in each of said items associated with each of said bookmarks that are correlated to said terms stored in said database.

10. The method of claim 5 wherein said steps of characterizing and storing each of said bookmarks comprises the steps of:

receiving data input to a template from a user for each of said bookmarks, said data providing identification information related to said bookmark;

correlating said data input by the user to data characterizing said libraries; and

storing each of said bookmarks in a library associated with each of said bookmarks based upon the correlation of said data input by the user to the data characterizing said libraries.

11. The method of claim 2 further comprising the step of controlling access to said plurality of libraries.

12. The method of claim 11 further comprising the step of defining operations permissable by a user that is granted access to said plurality of libraries.

13. The method of claim 11 wherein said step of controlling access to said plurality of libraries comprises the steps of:

defining access privileges for an individual user's library of bookmarks; and

defining access privileges for a group's library of bookmarks.

14. A method for identifying bookmarks of interest, comprising the steps of:

characterizing bookmarks based on qualities associated with said bookmarks;

storing libraries in a bookmark file stored on a network server, said libraries associated with said characterizing qualities of said bookmarks;

storing said bookmarks in said bookmark file in at least one library that is associated with said characterizing qualities of said bookmarks;

entering a profile into a database contained in said network server;

correlating said profile to said libraries; and

determining a set of bookmarks of interest to a user based on the correlation of said profile to said libraries.

15. The method of claim 14 wherein said profile contains data related to a user group.

16. The method of claim 14 wherein said profile contains data related to an individual user.

17. The method of claim 14 further comprising the step of prioritizing each of said bookmarks in said set of bookmarks of interest based on said profile.

18. The method of claim 15 wherein said user group includes sub-groups and wherein said profile contains data related to said sub-groups.

19. The method of claim 14 wherein said profile contains data related to an individual and a user group associated with the individual.

20. The method of claim 17 wherein said step of prioritizing each of said bookmarks in said set of bookmarks of interest based on said profile comprises the step

of filtering each of said bookmarks by an expert system.

21. An apparatus for storing bookmarks comprising:

a network server wherein said network server stores a bookmark file and wherein said bookmark file contains at least one library, said library characterized to store bookmarks associated with said characterized library.

22. The apparatus of claim 21 further comprising:

a database wherein said database is stored on said network server and wherein said database stores a user profile; and

a search module contained in said network server, said search module correlating said user profile to said libraries to determine a set of bookmarks of interest to a user.

23. The apparatus of claim 22 wherein said search module is an expert system.

24. The apparatus of claim 22 wherein said user profile contains data related to a user group.

25. The apparatus of claim 22 wherein said user profile contains data related to an individual.

26. A method for storing bookmarks comprising the steps of:

storing a bookmark file on a network server;

storing a first bookmark in said bookmark file as input to said network server by a user utilizing a first device interconnected to said network server; and

storing a second bookmark in said bookmark file as input to said network server by the user utilizing a second device interconnected to said network server.

27. A method for retrieving bookmarks comprising the steps of:

storing a bookmark file on a network server;

storing bookmarks in said bookmark file; and

accessing at least one of said bookmarks stored in said bookmark file by a user.

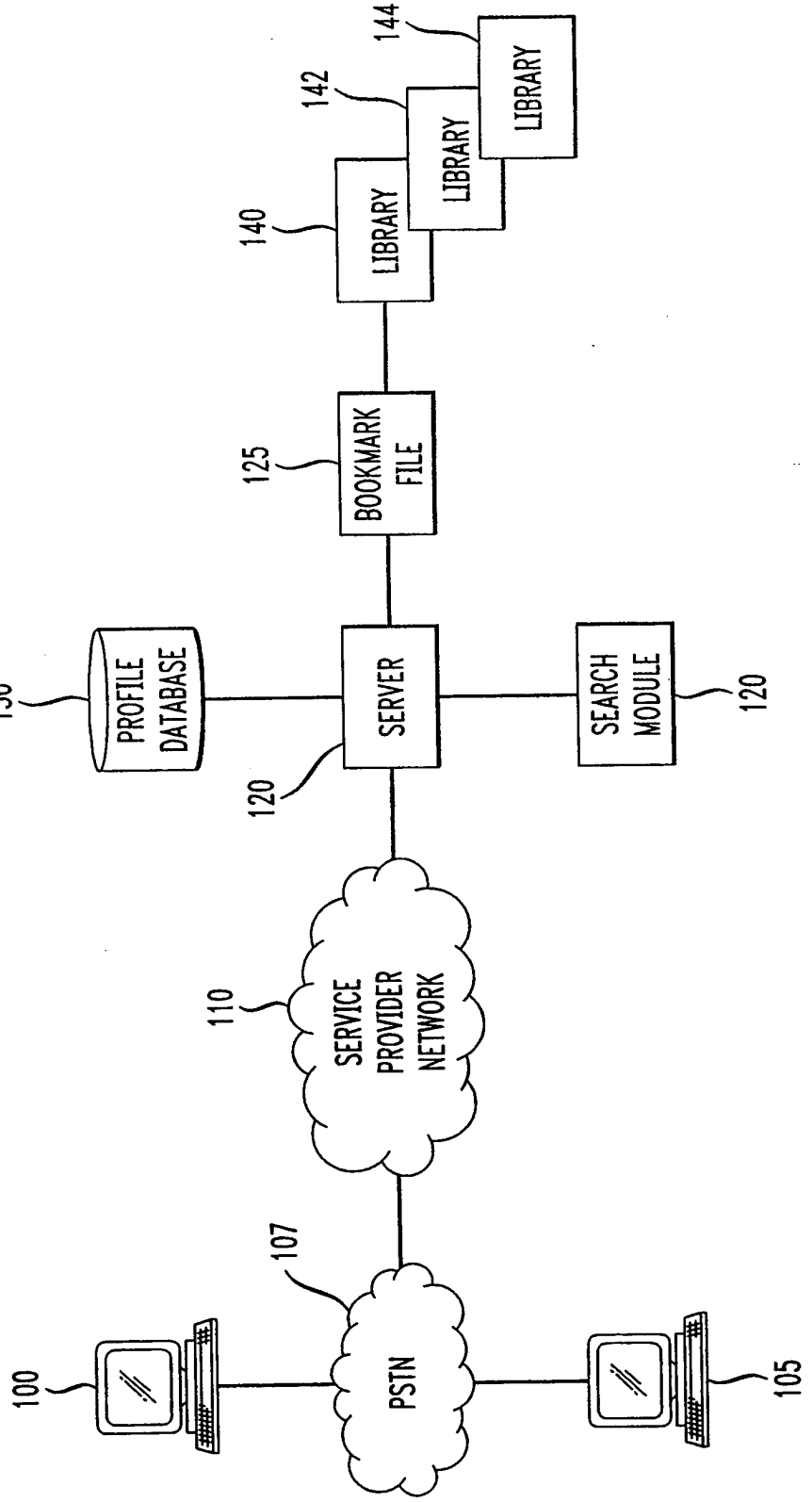


FIG. 1

FIG. 2

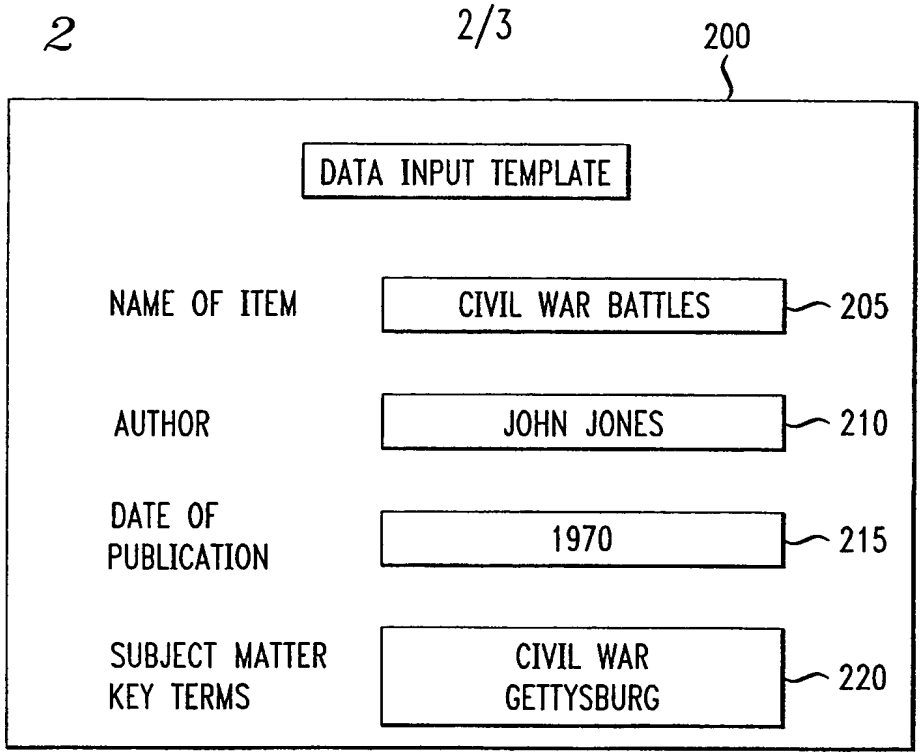


FIG. 3

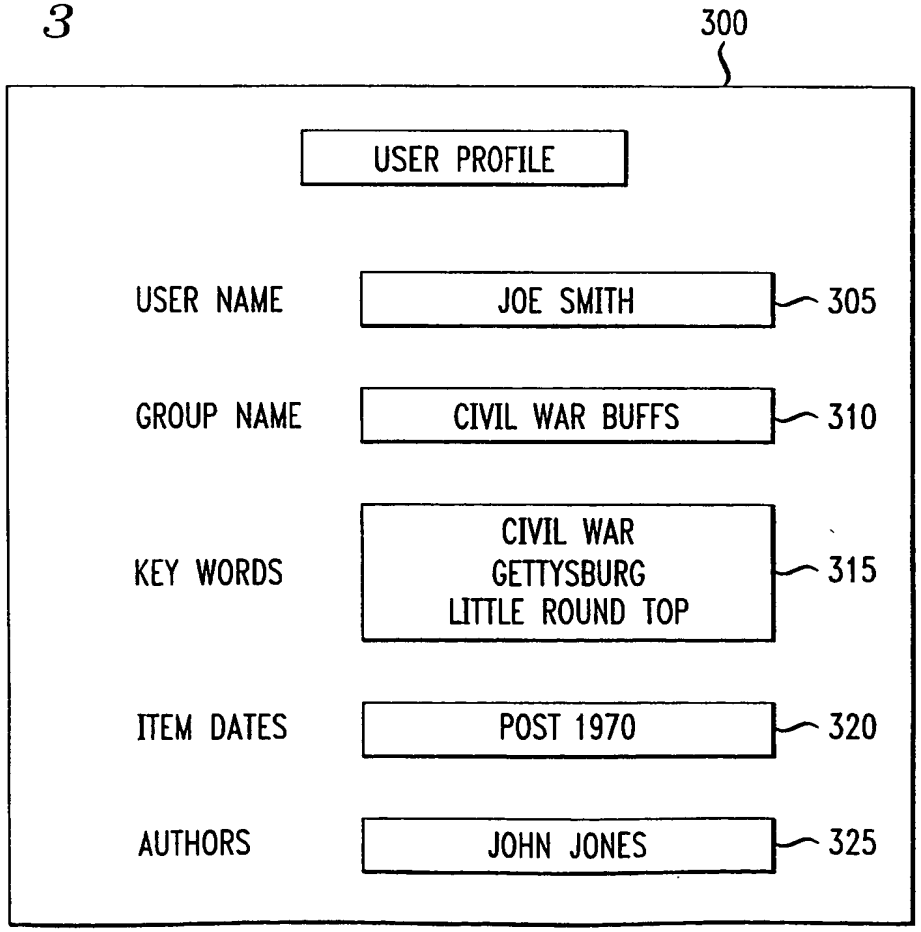
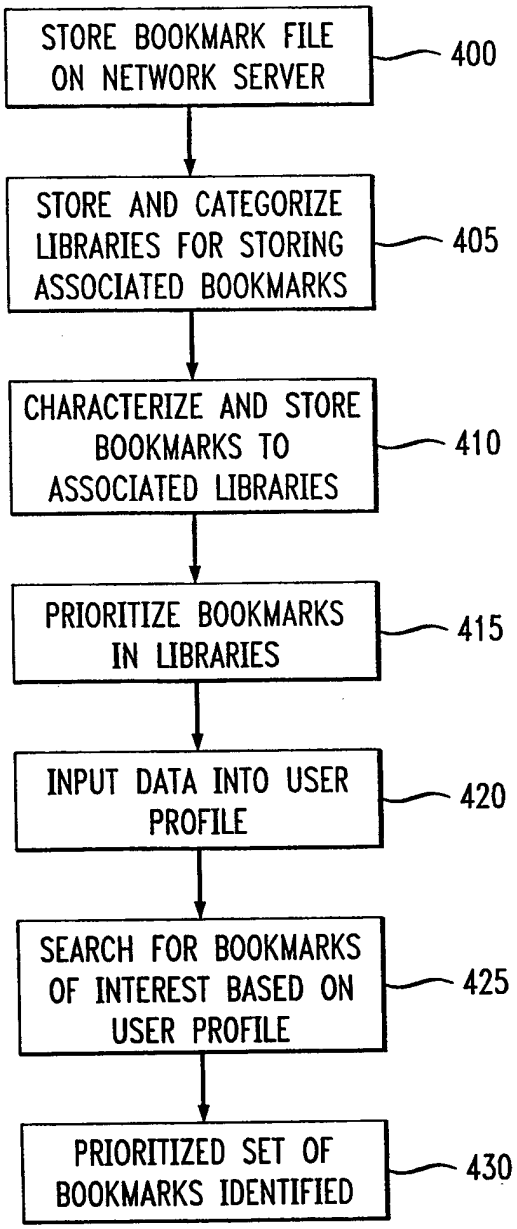


FIG. 4



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/09600

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :GO 6F 17/30
US CL : 707/10
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 707/10, 1-4, 501,513; 709/200,201,202, 217-219

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS, PROQUEST, IEEE, NPL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	VOEGELE et al., SLINKY: A URL Server, First Annual Conference on Emerging Technologies, IEEE, May 1996, pages 120-123, especially Figure 1; page 120, col. 2; page 121, col. 1-2	1, 26, 27 --- 2-25
Y	YUWONO et al., WISE: A World Wide Web Resource Database System, IEE Transactions on Knowledge and Data Engineering, vol. 8, No. 4, pages 549-554, April 1996, especially Figure 1, page 549, col. 2	15-16, 18-20, 23-25
Y,P	US 5,848,410 A (WALLS et al.) 12 December 1998, Figure 7, 10; col. 2, lines 35-55; col. 8, lines 5-49; col. 22, line 56 through col. 25, line 33	2-25
A, P	US 5,895,471 A (KING et al.) 20 April 1999	1-27

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 24 JUNE 1999	Date of mailing of the international search report 25 AUG 1999
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer HOSAIN T. ALAM Telephone No. (703) 308-6662

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/09600

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KURZKE et al., WebAssist: a user profile specific infromation retrieval assistant, COmputer Networks and ISDN Systems, vol. 30, Issue 1-7, April 1998, pages 654-655	1, 26, 27